

L. J. KNOWLES.  
HARNESS-CORDING FOR POWER-LOOMS.

No. 191,600.

Patented June 5, 1877.

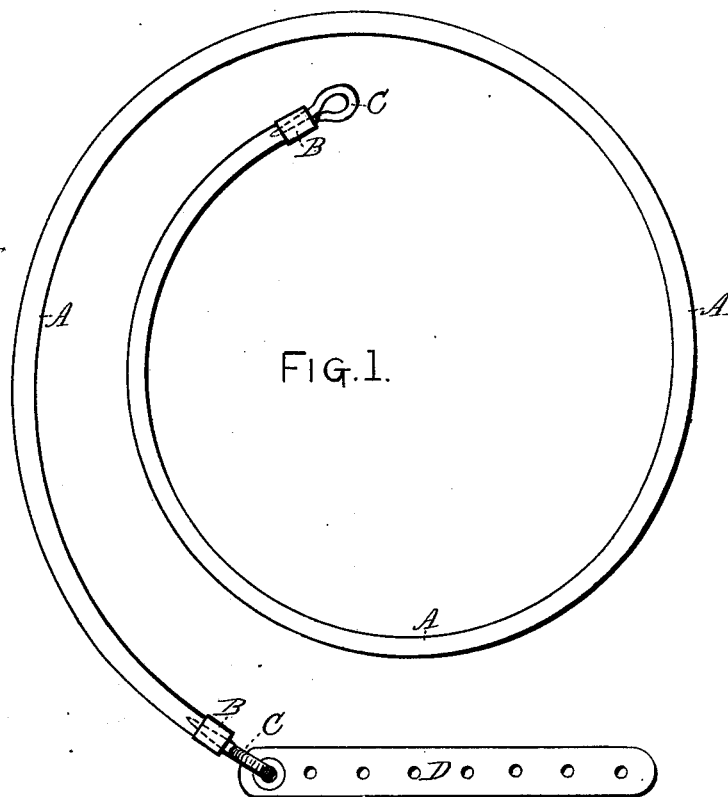


FIG. 2.



WITNESSES:

*Edwin E. Moore*  
*Albert A. Barker.*

INVENTOR:

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# UNITED STATES PATENT OFFICE.

LUCIUS J. KNOWLES, OF WORCESTER, MASSACHUSETTS.

## IMPROVEMENT IN HARNESS-CORDING FOR POWER-LOOMS.

Specification forming part of Letters Patent No. **191,600**, dated June 5, 1877; application filed March 2, 1877.

*To all whom it may concern:*

Be it known that I, LUCIUS J. KNOWLES, of Worcester, county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Harness-Cording for Power-Looms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a side view of harness-cording made according to my present invention; and Fig. 2 represents a side view of a section of the parts shown in Fig. 1, as will be hereinafter more fully explained.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

It has been found that when the number of harnesses is greatly increased they are necessarily crowded very closely together, and the operation of the loom is often greatly impaired by some portion of the harness-cording or its fastenings rubbing against and catching into the adjacent harness cordings or fastenings, and also into the heddles. Then, again, the materials from which they have been made have not been so durable and uniform in operation as was desirable.

To obviate the foregoing and other objections, I make the main part A of the harness-cording from fibrous material, braided into circular form, as indicated in Fig. 2. This

furnishes a strong, durable cord, having the requisite body to receive and hold the screw-threaded shanks of the metallic loops, hereinafter referred to. I then secure metallic ferrules B B to the ends thereof, after which I insert the screw ends of the metallic loops C C into the ends of the fibrous cording A, with an adjustable leather piece, D, secured to one of the loops, as fully indicated in Figs. 1 and 2 of the drawings.

By this arrangement I am enabled to produce a harness-cording, as an improved article of manufacture, ready for use, and at a very moderate expense, and one, too, which can be applied and adjusted for use by the operative with little trouble. There are no projecting ends or rough points liable to catch during the operation of the loom.

Having described my improvements in harness-cording for power-looms, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

A harness-cording, as an improved article of manufacture, the body part A of which is made from braided fibrous material, and provided at its ends with metal ferrules B and metallic loops C, to one of which loops is secured the adjustable strap D, all substantially as shown and described.

LUCIUS J. KNOWLES.

Witnesses:

EDWIN E. MOORE,  
ALBERT A. BARKER.